

REMARKS

Entry of the foregoing and reexamination and reconsideration of the subject application, as amended, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested in light of the remarks which follow.

The acknowledgment of applicants' two Information Disclosure Statements is noted, with appreciation. The copies of the two Forms PTO-1449 returned to the undersigned were, however, not initialed by the Examiner. This appears to have been an oversight; it is believed that all of applicants' citations clearly complied with current rules of practice regarding the filing of Information Disclosure Statements. It is respectfully requested that the Examiner return initialed copies of the Forms PTO-1449 with the next official communication. If there is any problem with respect to doing so, the Examiner is requested to phone the undersigned at the number given below as soon as possible.

The priority claimed herein under 35 U.S.C. § 119 and receipt of the certified copy of the priority document from the International Bureau in this national stage application have not yet been acknowledged. Applicants respectfully request the Examiner's acknowledgment of the priority claimed and the certified copy in the next official communication.

Claims 18-69 are in this application. By the foregoing amendment, Claims 18-42, 44 and 45 have been amended and Claims 43 and 46-50 remain as previously presented. Claims 51-69 have been added.

Claims 18-41 have been amended to place them in better form, for example, by using proper Markush language and by Americanizing spelling. There is no change in the scope of these claims as a result of these amendments, which are simply a matter of form.

Claims 42 and 44 have been rewritten in independent form. These and their dependent claims, that is, all of Claims 42-50, are no longer dependent upon a rejected base claim. These amendments thus overcome the record objection of Claims 42-50. Early allowance of all of claims 42-50 is believed to be next in order and is earnestly solicited.

Claims 24, 25 and 38 have been withdrawn from consideration, apparently because they specify additional ingredients beyond applicants' election of species of fipronil as the compound of formula (I), maize as the vegetable meal, cellulose as the moisture-retaining agent and, optionally, lactose, both as a sugar and as a disintegrating agent. In the event that the claims from which Claims 24, 25 and 38 depend are found to be allowable, however, Claims 24, 25 and 38 should be allowable as well. Therefore, if the Examiner allows Claims 18-23, 26-37 and 39-41, he is requested to rejoin, examine and allow Claims 24, 25 and 38 as well.

Claims 51-69 have been added.

Claim 51 is an independent claim drawn to a composition which is narrower than Claim 18 in that it is limited to the elected species fipronil as the active compound and the elected species cellulose as the moisture-retaining agent. Dependent Claim 52 specifies the elected species maize as the vegetable meal; maize is also specified in Claims 54 and 56,

while Claim 53 contains the features of Claims 22 and 40 and Claim 55 specifies the elected species lactose as both sugar and disintegrating agent.

Claim 57 is an independent method claim paralleling Claim 42 but limited to the elected species fipronil and cellulose as in Claim 51 discussed above. Claims 58-69 depend directly or indirectly from Claim 42 or Claim 44, but specify the various elected species similarly to the composition claims discussed in the preceding paragraph.

It is apparent from the foregoing that no new matter has been introduced as a result of the amendments to the claims.

Claims 18-23, 26-37 and 39-41 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sumitomo JP08175910. The Examiner has said that Sumitomo "teaches a poison bait composition in the form of a granule comprising 0.01-90% fipronil, nitrocellulose (moisture-retaining agent), maize (cereal) and honey (sugar)." Sumitomo does not teach nitrocellulose as a moisture-retaining agent and there is no evidence on this record that nitrocellulose is in fact a moisture-retaining agent. Indeed, the enclosed excerpts from *The Merck Index*, 11th edition, Merck & Co., Inc., Rohway, NJ, 1989, entry no. 8022, and *The Condensed Chemical Dictionary*, tenth edition, ed. Gessner G. Hawley, Van Nostrand Reinhold Company, New York, New York, 1981, show that nitrocellulose is a highly flammable or explosive nitrated derivative of cellulose used in making laquers, etc. It is not described in these excerpts as a moisture-retaining agent. In fact, it is apparent that nitrocellulose has properties different from those of cellulose *per se* and certainly does not appear to act as a moisture-retaining agent. Further, there is nothing in

the cited document to suggest that a compound having moisture-retaining properties should be present in a specific concentration. The cited reference may disclose a cellulose compound, but first this compound does not appear to have the requisite properties and secondly, there is no suggestion of the necessary amount. For these reasons, it is stretching the *post facto* analysis to arrive at the present invention.

It is also pointed out that nitrocellulose is not described in the reference as an essential ingredient; indeed, as is evident from the English translation of this reference filed with applicants' first Information Disclosure Statement, the only specific example of a poisonous bait in the reference does not even include nitrocellulose as one of its ingredients. As was noted in the previously submitted English translation of the International Preliminary Examination Report in its discussion of this reference (D1), the single example in the reference describes a composition which comprises, in addition to the insecticidal compound, a vegetable meal in an amount of 30% by weight and none of the other ingredients of the example of D1 has a function of the retention of moisture in the bait, contrary to the present invention as claimed. Note also that the amount of vegetable meal in the reference is considerably less than the minimum required by the instant invention. To summarize, there is no example of a bait containing nitrocellulose in the reference; there is no example or suggestion of a bait containing any sort of moisture-retaining agent in the reference, much less in the amounts required by applicants; and the only example in the reference contains substantially less vegetable meal than is required herein.

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As regards the amounts of each component and the particle size, the Examiner has stated that these could be readily determined. However, the prior art document places no significance on these parameters. The document states that the composition may be in the form of granules, but no more. One cannot conclude that the specific amounts required by applicants are obvious and could be readily determined when the cited document gives no indication that these parameters are important. Furthermore, use of the composition in the cited document is in the treatment of ants. In contrast, the composition of the present invention is for use in the treatment of crops and is applied to the soil and not to the insect directly. Such treatment methods are different as are the insects. Consequently, a granule having certain characteristics in terms of amounts of components and a granule size cannot be automatically assumed to work for a different treatment. While the composition *per se* is of course not restricted to the method of use in analyzing the prior art, the skilled addressee trying to develop a new composition to be used in the agrochemical field will certainly have the area of application in mind when looking at the available art.

In view of the foregoing, withdrawal of the record 35 U.S.C. § 103(a) rejection is believed to be in order and is earnestly solicited.

In light of the amendments to the claims and the remarks set forth above, it is believed that this application is now in condition for allowance. Further, favorable action in the form of a Notice of Allowance is respectfully requested.

Respectfully submitted,

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The
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Dictionary

TENTH EDITION

Revised by

GESSNER G. HAWLEY



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para-nitrobenzoyl chloride $\text{NO}_2\text{C}_6\text{H}_4\text{COCl}$.

Properties: Yellow crystalline solid; m.p. 72°C ; b.p. 154°C (15 mm); decomposes in water and alcohol; soluble in ether. Combustible. Probably low toxicity.

Uses: Intermediate for procaine hydrochloride; dye-stuffs.

para-nitrobenzyl cyanide (para-nitro-alpha-tolunitrile) $\text{NO}_2\text{C}_6\text{H}_4\text{CH}_2\text{CN}$.

Properties: Crystals; m.p. $116\text{--}118^\circ\text{C}$. Insoluble in water; soluble in alcohol and ether.

Derivation: Action of concentrated nitric acid on benzyl cyanide.

Hazard: Probably toxic. Tolerance (as CN), 5 mg per cubic meter of air.

Uses: Intermediate for dyestuffs and pharmaceuticals; preparation of para-nitrophenylacetic acid.

ortho-nitrobiphenyl (ONB; ortho-nitrodiphenyl) $\text{C}_6\text{H}_5\text{C}_6\text{H}_4\text{NO}_2$.

Properties: Light-yellow to reddish solid or liquid; sp. gr. 1.203 ($25/25^\circ\text{C}$); 10 lb/gal; crystallizing pt. 34.5°C (min); refractive index 1.613 approx (25°C); b.p. 330°C approx. Flash point 290°F (143°C); autoignition temp. 356°F (180°C). Soluble in carbon tetrachloride, mineral spirits, pine oil, turpentine, benzene, acetone, glacial acetic acid, and perchloroethylene. Combustible. Insoluble in water.

Derivation: By controlled nitration of biphenyl.

Hazard: Toxic by ingestion.

Uses: Dye intermediate; fungicide; plasticizer for cellulose; wood preservative.

nitrobromoform. See bromopicrin.

2-nitro-1-butanol $\text{CH}_3\text{CH}_2\text{CHNO}_2\text{CH}_2\text{OH}$.

Properties: Colorless liquid; solubility in water 20 g/100cc (20°C); sp. gr. 1.133 ($20/20^\circ\text{C}$); b.p. 105°C (10 mm); f.p. -48 to -47°C ; wt/gal 9.44 lb (20°C); refractive index 1.4390 (20°C); pH of 0.1 M solution 4.51. Combustible. Low toxicity.

Containers: 5- and 55-gal drums; 1-gal cans.

Use: Organic synthesis.

nitro carbo nitrate. A blasting agent consisting of ammonium nitrate sensitized with diesel oil. Will burn with explosive violence.

Hazard: Dangerous explosion risk. Strong oxidizing agent.

Shipping regulations: (Rail, Air) Oxidizer label.

→ **nitrocellulose** (cellulose nitrate; nitrocotton; gun-cotton; pyroxylin). Formula approximately $\text{C}_6\text{H}_7\text{O}_2(\text{ONO}_2)_3$.

Properties: Pulpy, cotton-like, amorphous solid (dry); colorless liquid to semisolid (solution). Contains from 10 to 14% nitrogen. High-nitrogen form (explosives) is soluble in acetone, insoluble in ether-alcohol mixtures. Low-nitrogen form (pyroxylin) is soluble in ether-alcohol mixtures and acetone (collodion and lacquers). Sp. gr. 1.66; flash point 55°F (12.7°C); autoignition point 338°F (170°C). Low toxicity.

Derivation: Treatment of cellulose (as cotton linters, wood pulp) with mixtures of nitric and sulfuric acids. By varying strength of acids, temperature and time of reaction, and acid/cellulose ratio, widely different products are obtained.

Forms: Colloided, block; colloided, flake or granular; flakes; powder; solutions of several viscosities (from 1/4 to 1000 seconds). May be dry or wet with alcohol or water.

Containers: Barrels; carlots.

Hazard: Highly flammable; dangerous fire and explosion risk. Somewhat less flammable when wet.

Uses: Fast-drying automobile lacquers; high explosives; collodion; rocket propellant; printing ink base; flashless propellant powder; coating book-binding cloth; leather finishing; manufacture of "Celluloid". See also Hyatt.

Shipping regulations: Consult regulations. Explosive types not acceptable by air.

See also Hyatt.

nitrocellulose lacquer. See lacquer.

nitrochlorobenzene. Legal label name (Rail) for chloro-nitrobenzene.

nitrochloroform. See chloropicrin.

para-nitro-ortho-chlorophenyl dimethyl thionophosphate. See dicapthon.

nitrocobalamin $\text{C}_{62}\text{H}_{90}\text{N}_{14}\text{O}_{16}\text{PCo}$. One of the active forms of vitamin B_{12} (q.v.) in which a nitro group is attached to the central cobalt atom.

"Nitrocols."²²³ Trademark for products consisting of pigments (carbon black or titanium dioxide) dispersed in various proportions of nitrocellulose and dibutyl phthalate. Used in high-gloss white, industrial-type, and high-grade jet black lacquer finishes. Available in two forms, chip and paste.

nitrocotton. See nitrocellulose.

2-nitro-para-cresol (4-methyl-2-nitrophenol) $\text{NO}_2(\text{CH}_3)\text{C}_6\text{H}_4\text{OH}$.

Properties: Yellow crystals; density 1.24 g/ml ($38/4^\circ\text{C}$); m.p. about 35°C ; b.p. 234°C ; slightly soluble in water; soluble in alcohol, ether. Combustible.

Containers: Steel drums.

Hazard: Toxic by ingestion, inhalation, and skin absorption.

Use: Intermediate.

nitrodichloro derivative. See the corresponding dichloronitro derivative.

ortho-nitrodiphenyl. See ortho-nitrobiphenyl.

ortho-nitrodiphenylamine $\text{C}_6\text{H}_5\text{NHC}_6\text{H}_4\text{NO}_2$.

Properties: Red-brown crystalline powder; m.p. $75\text{--}76^\circ\text{C}$. Combustible; low toxicity.

Uses: Stabilizer for nitroglycerin; chemical intermediate.

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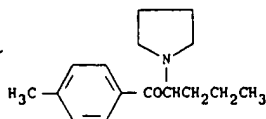
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NO; mol wt 245.35. C 78.32%, H 9.45%, N 5.71%, O 6.52%. Prepn: Brit. pats. 927,475 and 933,507 (both 1963 to Wander and to Thomae); Hefte, *Helv. Chim. Acta* 47, 1289 (1964). Pharmacology: Stille *et al.*, *Arzneimittel-Forsch.* 13, 871 (1963). Metabolism: Michaelis *et al.*, *J. Med. Chem.* 13, 497 (1970).



bp_{0.08} 104°.

Hydrochloride, C₁₆H₂₄ClNO, *F* 1983, *Centroton*, *Thymer-gix*. Crystals from 2-butanone or from methanol + acetone + diethyl ether, mp 178°. LD₅₀ orally in mice: 350 mg/kg, Stille *et al.*, *loc. cit.*

THERAP CAT: Central stimulant.

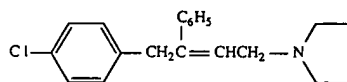
→ **8022. Pyroxylin.** Cellulose nitrate; nitrocellulose; collodion cotton; soluble gun cotton; collodion wool; colloxylin; xyloidin; celloidin; Parlodion. Variable mixture which consists chiefly of cellulose tetranitrate. Review: R. T. Bogan *et al.* in Kirk-Othmer *Encyclopedia of Chemical Technology* vol. 5 (Wiley-Interscience, New York, 3rd ed., 1979) pp 129-143.

Yellowish-white, matted mass of filaments, having the appearance of raw cotton. *Highly flammable*; pyroxylin with higher nitrogen content may explode! Flash pt 40°F (closed cup); ignites at 160-170°. When kept in well-closed containers and exposed to light it dec. Sol in 25 parts of a mixture of 1 vol alcohol and 3 vols ether; also sol in methanol, acetone, glacial acetic acid, amyl acetate. *Keep loosely packed in cartons and protected from light and moisture.* Can be shipped with safety only when wet with 25-30% water or alcohol.

USE: In manuf of collodions; in lacquer coatings, inks, adhesives. Cellulose hexanitrate is used in explosives and propellants. Celloidin is used for embedding sections in microscopy; in electrotechnics, photography, galvanoplasty.

THERAP CAT: Topical protectant.

8023. Pyrrobutamine. 1-[4-(4-Chlorophenyl)-3-phenyl-2-butenyl]pyrrolidine; 1-(γ-p-chlorobenzylcinnamyl)pyrrolidine; 1-p-chlorophenyl-2-phenyl-4-pyrrolidyl-2-butene; Pyronil. C₂₀H₂₂ClN; mol wt 311.87. C 77.03%, H 7.11%, Cl 11.37%, N 4.49%. Ref: Lee *et al.*, *Proc. Soc. Exp. Biol. Med.* 80, 458 (1952). Prepn: Mills, U.S. pat. 2,655,509 (1953 to Eli Lilly).



Oily liquid, bp_{0.3} 190-195°. On standing gives crystals, mp 48-49°.

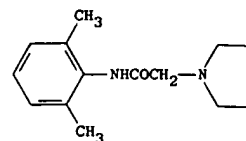
Diphosphate, C₂₀H₂₂ClNO₂P₂, crystals from alcohol + ether, mp 129.5-130°. Soluble in warm water to the extent of 10%. Soly in alcohol at 25° about 5%. Practically insol in chloroform, ether.

Hydrochloride, C₂₀H₂₂ClN.HCl, crystals from alcohol + ether, mp 227-228°.

Hydrobromide, C₂₀H₂₂ClN.HBr, crystals from alcohol + ether, mp 228-229°.

THERAP CAT: Antihistaminic.

8024. Pyrrocaine. N-(2,6-Dimethylphenyl)-1-pyrrolidineacetamide; 1-pyrrolidineaceto-2',6'-xylylidide; 2-(1-pyrrolidinyl)-2',6'-acetoxylylidide; 1-pyrrolidinoaceto-2,6-dimethylanilide; EN 1010; NSC-52644; Endocaine; Dynacaine. C₁₄H₂₀N₂O; mol wt 232.32. C 72.38%, H 8.68%, N 12.06%, O 6.89%. Prepn: Schlesinger, Gordon, U.S. pat. 2,813,861 (1957 to Endo); Löfgren *et al.*, *Acta Chem. Scand.* 11, 1724 (1957).



Crysts from hexane or petr ether + dibutyl ether, mp 83°. Hydrochloride, C₁₄H₂₀N₂O.HCl, crystals from isopropanol, mp 205°. Soluble in water, alcohol, isopropyl alcohol. Practically insol in chloroform, ether.

THERAP CAT: Anesthetic (local).

8025. 1H-Pyrrole. Azole; imidole; divinylenimine. C₄H₅N; mol wt 67.09. C 71.60%, H 7.51%, N 20.89%. A constituent of coal tar and bone oil: Runge, *Ann. Phys.* 31, 67 (1834). Prepd industrially by fractional distillation of bone oil, or by the thermal decompn of ammonium mucate with glycerol or mineral oil: McElvain, Bolliger, *Org. Syn. coll. vol. I* (2nd ed., 1941) p 473; Blicke, Powers, *Ind. Eng. Chem.* 19, 1334 (1927). Also formed on heating of albumin; on heating sheep's wool with aq barium hydroxide soln; by pyrolysis of gelatin. Alternate preps from acetaldehyde and ammonia: Tschitschibabin, *Chem. Zentr.* 1916, 1, 920; from succinaldehyde with ammonia and acetic acid: Harries, *Ber.* 34, 1496 (1901); 35, 1183 (1902); distilling succinimide with zinc or sodium: Bell, Bernthsen, *Ber.* 13, 877, 1049 (1880). Purification and physical properties: R. V. Helm *et al.*, *J. Phys. Chem.* 62, 858 (1958). Review: Fischer-Orth, *Die Chemie des Pyrrols* (Leipzig, 1934-1940); E. Vitort, L. R. Anderson in Kirk-Othmer *Encyclopedia of Chemical Technology* vol. 19 (Wiley-Interscience, New York, 3rd ed., 1982) pp 499-520.



Liquid. Agreeable empyreumatic odor resembling that of chloroform. Colorless when freshly distilled, darkens unless every trace of oxygen is removed. d₄²⁰ 0.9691. bp₇₆₀ 129.8°. Best distilled *in vacuo*. n_D²⁰ 1.5085. Flash pt, closed cup: 102° F (390° C). Absorption spectrum: Munczel, *Phys. Chem.* 125, 161; *Chem. Zentr.* 1927, 1, 2510. Sparingly sol in water; freely sol in alcohol, benzene, ether. Insol in aq alkalis. Sol in dil acids with decompn. Solns in dil HCl yield pyrrole red, an amorphous, orange-colored substance; also polymerization takes place under the influence of acids and glycols.

8026. Pyrrolidine. Tetrahydropyrrole. C₄H₉N; mol wt 71.12. C 67.55%, H 12.76%, N 19.70%. Found in tobacco and carrot leaves. Probable biosynthesis from ornithine and putrescine. Usually prepd by reduction of pyrrole.



Almost colorless liquid; unpleasant ammonia-like odor. Furnes in air. bp 88.5-89°. d₄²⁵ 0.8520. n_D²⁰ 1.4402. Strong base. K at 25° = 1.3 × 10⁻³. Miscible with water. Soluble in alcohol, ether, chloroform.

8027. 2-Pyrrolidone. 2-Pyrrolidinone; 2-oxopyrrolidine; α-pyrrolidone; 2-ketopyrrolidine. C₄H₇NO; mol wt 85.10. C 56.45%, H 8.29%, N 16.46%, O 18.80%. Prepd on a large scale from butyrolactone by a Reppe process: Ger. pat. 1,085,525 (to BASF). Other preps: Metzger, Seelert, *Angew. Chem.* 75, 919 (1963); Copenhaver, Ney, U.S. pat. 3,095,423 (1963 to Minnesota Mining & Manuf); Lidov, U.S. pat. 3,109,005 (1963 to Halcon International).

